Ordering number: EN 1188D



NO.1188D

Monolithic Digital IC

LB1231 Series

High-Voltage, Large Current Darlington Transistor Array

The circuit configuration of this IC is of 7-channel Darlington transistor array consisting of NPN transistors. It is especially suited for use in hammer drivers and lamp, relay drivers. It contains spark killer diodes against L load.

Features High-voltage (V_{CEO}≧50V), large-current ($I_C$max=500mA) drive

- LB1231 . Drivable by TTL, MOS output
- LB1232 . Contains base current limiting resistors, Zener diodes for level shift.
  . Direct drivable by 24V P MOS.
- LB1233 . Contains base current limiting resistors.
  . Direct drivable by TTL, C MOS output.
- LB1234 . Contains base current limiting resistors.
  . Direct drivable by C MOS, P MOS output.

Absolute Maximum Ratings at T_a=25°C

				unit
Output Supply Voltage	V_{OUT}		50	V
Output Current	I_{OUT}	Per unit	500	mA
Input Supply Voltage	V_{IN}	LB1232/33/34	30	V
Input Current	I_{IN}	LB1231 only	25	mA
GND Pin Current	I_{GND}	7ch simultaneously on, f=10Hz, duty,=23%	2.8	A
Allowable Power Dissipation	$P_d$max		1.5	W
Operating Temperature	Topr		-20 to +75	°C
Storage Temperature	Tstg		-40 to +150	°C

Allowable Operating Conditions at Ta=25°C

					unit
Output Supply Voltage	V_{OUT}			50	V
Input "H" Level Voltage	V_{IH}	LB1232	I_{OUT}=350mA	11 to 30	V
		LB1233	I_{OUT}=350mA	3 to 30	V
		LB1234	I_{OUT}=350mA	5 to 30	V
Input "L" Level Voltage	V_{IL}	LB1231/33	I_{OUT}≦100μA	-0.3 to +0.3	V
		LB1232	I_{OUT}≦100μA	-0.3 to +6.0	V
		LB1234	I_{OUT}≦100μA	-0.3 to +0.7	V

Package Dimensions 3064-D16TR
(unit : mm)

16 9 1 8 6.5 7.62 0.25 19.1 3.6 3.3 1.3 0.5 2.54

SANYO: DIP16

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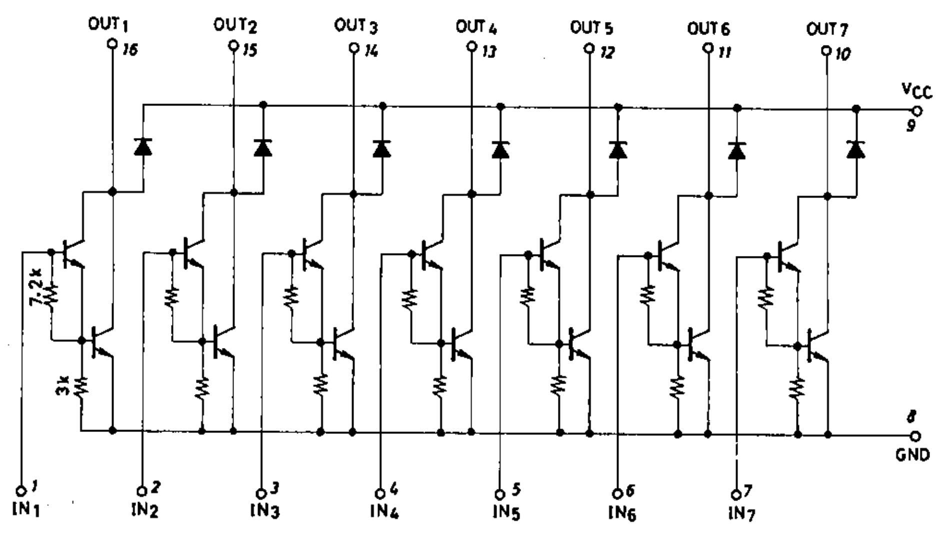
Electrical Characteristics at T_a=25°C

			min	typ	max	unit
Output Leak Current	I_{OFF}	V_{OUT}=50V			100	µA
Output Voltage	V_{OH1}	I_{IN}=0.25mA, I_{OUT}=100mA		0.9	1.1	V
	V_{OH2}	I_{IN}=0.35mA, I_{OUT}=200mA		1.1	1.3	V
	V_{OH3}	I_{IN}=0.5mA, I_{OUT}=350mA		1.3	1.6	V
	V_{OH4}	I_{IN}=1mA, I_{OUT}=400mA			2.4	V
Input Voltage	V_{IN}	LB1231 I_{IN}=1mA		1.35	1.7	V
Input Current	V_{IN}	LB1232 V_{IN}=17V		0.82	1.25	mA
		LB1233 V_{IN}=3.85V		0.93	1.35	mA
		LB1234 V_{IN}=5V		0.35	0.5	mA
		LB1234 V_{IN}=12V		1.00	1.45	mA
Spark Killer Diode Leak Currnet	$I_{R(S)}$	$V_{R(S)}$=50V			100	µA
Spark Killer Diode Forward Voltage	$V_{F(S)1}$	$I_{F(S)}$=350mA			2.0	V
	$V_{F(S)2}$	$I_{F(S)}$=400mA			2.4	V

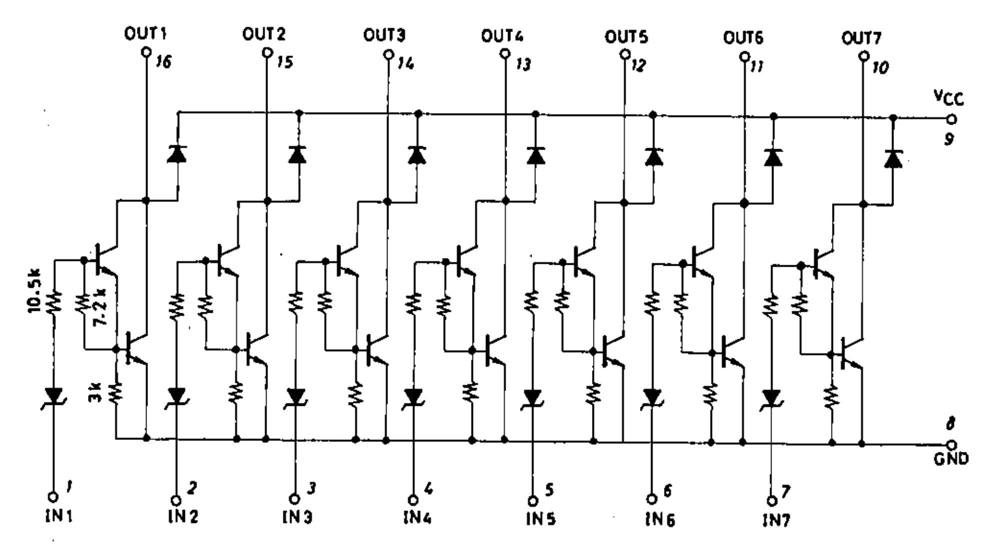
Equivalent Circuits

Unit (resistance: Ω)

LB1231



LB1232

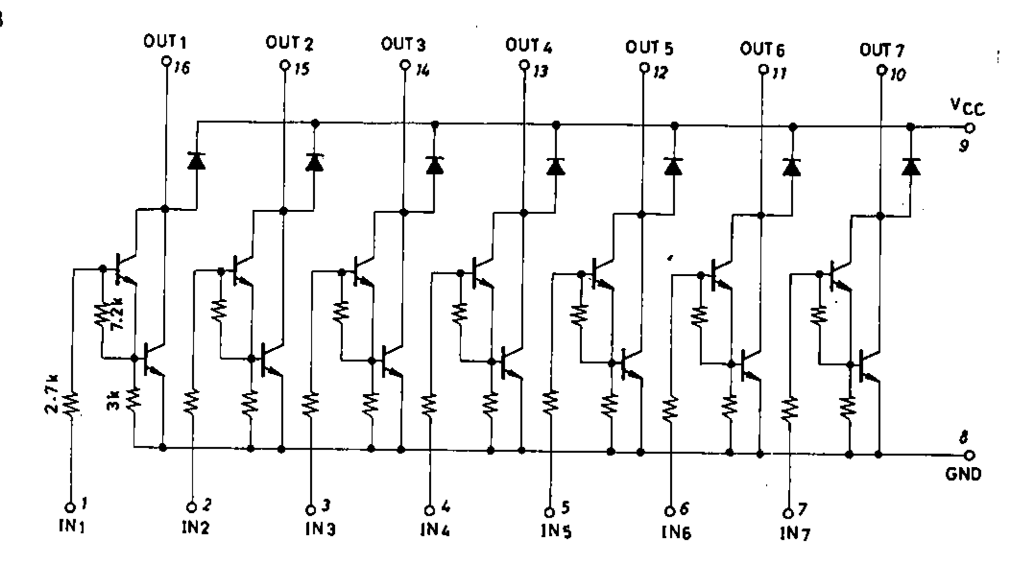


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Unit (resistance: Ω)

LB1233



LB1234

